THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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NOMINATION OF OFFICERS.

All candidates for office, whether as members of Council or as Examiners, must now be nominated some days before the time of election. The value of this is evident. It makes the elections more orderly, and it prevents the sudden springing of a candidate upon the electors at the last moment when it is impossible to judicially consider his merits. At the election of members of Council it is most desirable that we should all know as early as possible who are nominated, but the official list is as a rule not made public until the ballot paper discloses the names of candidates. It would be better if some means existed for letting every one know these names at least a week before the ballot papers are sent out.

At the election of examiners the electors (the Council) have the list of names sent to them a week before the election, and therefore time and opportunity are given for enquiry. There is, however, another difficulty—viz., that the nominations are not made public, and thus some possible candidate may fail to get nominated. Many men would be willing to nominate him but each trusts to some one else doing it and it is left undone, with the result that the candidate is, on the day of election, not eligible. As a rule there are more candidates than vacant offices, but it may easily happen that by inadvertence the last day for nominations may pass by and an insufficient number of candidates be presented. This would entail an additional meeting of Council, a further set of nominations, and another election for the vacant places. Even worse might happen; for suppose two examiners were wanted for some subject and the two old examiners being trusted and approved men were nominated. Members knowing or thinking they were sure of election refrained from further nomination, but at the last moment some unknown and incapable practitioner were added to the list. If one of the old examiners should die or decline to act, after the last day of nomination, the Council would be bound to elect the incapable.

Probably such untoward events will rarely happen but they should be guarded against; and we think the greatest publicity should be given to the nominations, so that the profession as well as the Council might know exactly who were nominated. This knowledge might be obtained if a resolution were passed by Council that every nomination should be suspended in an accessible part of the College building, immediately upon its receipt by the Secretary.

NEXT ELECTION OF COUNCILMEN.

We believe that some fifteen gentlemen have already been nominated for the fifteen vacancies to be filled at next election. Quite half of these gentlemen are strangers to the Council and their ideas on things veterinary are profound secrets. The practitioner may have some little basis on which to form an opinion regarding candidates who have filled office for a time. He is able to find out how such men have acted and he may infer how they will act. In the case of candidates selected by veterinary associations, the local members probably know their nominees' views and abilities. But this is not enough. No association can unassisted return its selection, and the whole profession should know the opinions of its representatives. We cannot believe in geographical representation, and we put no trust in purely local fame. If the best men are to be elected we must insist upon candidates taking the profession into their confidence, and telling us what they think and what they mean to do.

There is no very burning question to divide us but this peaceful condition should not be allowed to induce any return to the negligence and apathy of past years. The rule should be inflexible than no votes should be given to candidates who fail to issue an address or in some way to publicly indicate their opinions. Our pages are at the service of any candidate who desires to appeal to the profession.

THE FOUR YEARS COURSE.

The new Register of the Royal College of Veterinary Surgeons has just been published, corrected to February 1893. In it we find the regulations affecting the four years scheme of examinations and it may be well just to note the chief points. It is "to come into force after April 7th, 1895." If in 1895 the examinations are held in May, as now, the students will be examined, in the four divisions marked out by the scheme and in the method provided. The R.C.V.S. is an examining body and can only alter the examinations; it has no power to interfere with the teaching schools, and therefore the education of the student preparatory to the 1895 examinations is not referred to except to protect all candidates from injustice. For this purpose a regulation was adopted that "no student at College, when this scheme was sanctioned by the Council, to be in any way affected by it."

All changes cause some disturbance, and students who entered the schools last year but who have not obtained their diplomas by 1895 will have to be examined under the methods now enforced. This could not be avoided, and the trouble of arranging will fall not on the schools or students but upon the Royal College of Veterinary Surgeons. Practically no difficulty will arise, as only third and fourth year men are affected by the re-arrangement of subjects.

CASES AND ARTICLES

YEW POISONING.

By E. Wallis Hoare, F.R.C.V.S., Cork.

The physiological action of the active principle contained in the leaves of the different species of the yew tree offers a wide field for experiments of a useful nature. That the leaves do not always have a toxic effect on cattle is a fact borne out by experience, as we frequently see instances of cattle grazing on domain lands where the trees show evidences of having their lower branches eaten away, and no cases of poisoning arise therefrom. On the other hand we know too well the fatal effects which sometimes follow from eating even a small portion of the leaves. I intend giving a brief account of an extensive poisoning of cattle which came under my notice.

In March, 1892, a farmer requested my immediate attendance at his place about ten miles from here, saying that three of his heifers had died suddenly, from what he thought was malicious poisoning. On arrival I found three animals dead and the remaining animals, I think about nine in number, in the field looking apparently healthy. and all chewing the cud. While proceeding to make a post-mortem examination on one of the bodies, I noticed one of the heifers in the field fall down and die after a few convulsive struggles, just as if shot through the head. In a few minutes more another followed suit, and then a third. Having enquired if there were any yew trees about the place, I was informed that no such tree existed there. I immediately ordered the remaining animals doses of whisky and ol. lini., as being the only available agents at hand, and they all recovered.

The autopsy revealed nothing save the presence of a few sprigs of yew leaves; rumen full of ordinary food, no gastro-enteritis; eyes blood-shot and staring, fluid food passing through nostrils. The leaves resembled those of the English yew; which is not so common in this district as the Irish yew, and when I suggested that these leaves were the cause of death, my opinion was ridiculed by those present, who did not believe them to be leaves of a yew tree at all. It is very common for farmers to favour the idea of malicious poisoning in this country in order to make a claim on the barony for their loss, so I was determined to investigate the matter to the end.

Adjoining this farm was a gentleman's domain, with ornamental shrubs etc. I was assured that none of the cattle could have entered these grounds, but on proceeding a long way from where the animals were I found a very large specimen of an English yew tree, one of whose lower branches had been cut, and placed in a gap in the fence to prevent cattle trespassing. This branch contained a large amount of foliage, just commencing to wither, and there was abundant evidence to show that the cattle had been feeding off it, by the portions eaten off, and the hoof prints on the ground. Needless to say it was impossible to persuade the owner of the cattle that this was the cause of death, as he was persuaded by his friends to the contrary, but did not yield to their wishes to have an analysis made of the contents of the stomach.

I remarked that a portion of the branch which I had kept, underwent some fermentative change whereby a very fœtid odour was emitted. I am of opinion that during the process of withering some poisonous principle is developed. It may be asked why should cattle eat leaves in a half withered state, but we must consider that at this time of the year grass is very scanty, and cattle left out in the morning hungry are not always over particular in their appetites. Whatever the nature of the toxic principle may be, one thing is certain—that it does not act in all subjects alike. In the cases I have mentioned, death appeared so suddenly as to resemble that produced by hydrocyanic acid.

ROARING IN HARNESS.

By R. C. Irving, F.R.C.V.S.

Some horses "make a noise" both in the saddle and in harness. Such are undoubtedly roarers and unsound. Some horses make a noise in harness but no amount of exertion will cause them to do so in the saddle. Are such horses roarers?

I am aware that these cases are not very common but they are very important, not only to the buyer and seller but also to the professional examiner of horses. If I pass a horse sound after submitting it to the ordinary tests I am responsible for any negligence. If I fail to find that a horse is a roarer I am liable to be cast in damages. Probably ninety per cent of examinations include testing the wind by galloping and not by a trial in harness. Should such an animal as I am referring to come amongst the ninety I should not detect the noise and I might have to stand an action at law as the result. Is it necessary always to try a harness horse's wind in harness? Is it the custom?

It certainly is not the custom. and it is as certain that the ordinary gallop cannot detect all cases that "make a noise." Within the last year I have met with five cases in which horses, and even ponies, have made a distinct noise in harness but none in the saddle. All these cases were in animals of high courage, all were pullers, and all carried their nose into their chests when driven. "Roaring" is an unsoundness. When the cause is paralysis of laryngeal muscles there is very good reason to call the symptom an unsoundness. It is a condition which interferes with an animals usefulness, and it is a disease giving quite positive evidence in structural changes. We know by experience that the disease is incurable and that it is progressive. If roaring in harness is due to the lesion causing ordinary "roaring" it is a disease and an unsoundness.

I question very much, however, if this condition is true roaring. I think that even the least amount

of laryngeal paralysis *must* be made evident by "a noise" when the horse is thoroughly galloped, and I submit that when a gallop fails to indicate any "noise" that there is no paralysis. If a horse only makes a noise in harness I submit that there is no disease, and that the animal is not unsound. The 'noise' is only a temporary abnormality due to the position of the head, and I argue that a gallop is the right and proper course to test the question. It is unnecessary to put a horse in harness to be able to say if his wind is sound; and if we gallop fairly and fail to get a noise I hold we have a right to certify soundness.

This argument I think is correct and sound from a professional point of view, but I am not certain that it would be accepted by a jury. A jury might not distinguish between a noise due to disease and a noise due to a temporary position of the head, consequently a veterinary surgeon might be cast in damages. For this reason the subject requires attention, and we should come to some general opinion upon such an important point.

Of course, in practice, as a matter of tact no one would pass as sound a horse that made a noise. Even if we detected it only in harness we should mention the fact, and leave our client to determine his action with the knowledge that it existed.

The difficulty arises when we do not detect the sound. Is a gallop all the test requisite to diagnose roaring, or should we put all harness horses in harness before certifying? This is the question that requires an answer.

ANÆMIC DIARRHŒA IN YOUNG CATTLE

By Fras. Evelyn Place, M.R.C.V.S., Honiton.

I have been interested in the article under the above title by Mr. Gibbings in your current issue, and beg to offer the few following notes.

In the early spring of 1890 I was, in conjunction with Professor Penberthy, investigating outbreaks similar to those described, and found in the mucous membrane of the abomasum of one calf numerous strongyle-like worms 1-3 centimetres in length, and subsequently found similar worms in other subjects attacked by the disease, and as a means of identification termed the parasite "strongylus Placei." Prof. Penberthy had, I believe, drawings made of some of the worms mounted for him, and I regret I have no permanent specimen by me now, but have frequently made temporary mounts during the last few months to verify my diagnosis in the numerous cases I have met with lately.

I may perhaps supplement Mr. Gibbings's description by mentioning that the only special microscopic post-mortem appearances I have detected are a catarrhal condition of the abomasum, with numerous petechiæ, in the neighbourhood of which I have found the parasites readily, and I am inclined to believe that internal hæmorrhage from these spots conduces largely to the anæmic condition found in subjects affected by the disease. Iron, salt, cod liver oil and turps have proved efficient agents to cope with the parasites.

REMARKABLE CASE IN A FOAL.

By John Barr, M.R.C.V.S., Halvergate, Norfolk.

My object in relating the following case is merely to place it on record. I cannot recollect having heard of a similar case, and although there is not much useful information to be derived from it, I hope its extraordinary nature is sufficient to warrant my object.

On Monday night (3rd inst.) I was called upon to assist a mare in the act of foaling. There was not much wrong with the position of the foal, the head and neck being merely depressed and lying between the fore legs, and inasmuch as these were in the vagina I had little difficulty in getting the foal. Having removed the foal and seeing nothing further amiss I left, but almost immediately thereafter the man in attendance noticed the foal straining, and on looking to see if there had been any fæces passed, he observed a mass of intestine protruding from the anus. Within half an hour of the birth of the foal, I was again in attendance, and found on examination that the protruding mass consisted of small intestine and mesentery, with a small portion of everted rectum which was intensely inflamed. I considered nothing could be done to benefit the little sufferer so I advised slaughter.

Post-mortem examination next day revealed a rupture 3 inches long in the rectum, the mucous membrane of which was inflamed throughout. The protruding portion of the ileum measured 4 yards, and before death had become strangulated.

Was the rectum inflamed before birth, and did the rupture occur before or after? I am at a loss to ascribe a cause or fix the time of the pathological changes.

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY,

SOME DIGESTIVE DISEASES OF THE OX,

By Henry Edgar M.R.C.V.S.

(Continued from page 586.)

The next disorder we will treat of is Dyspepsia, Plenalvia—Impaction of the rumen. I consider all these to be different stages of the same disease. It causes much havoc, especially in the London dairies, during the winter time or late autumn, when the cows are fed on a considerably increased quantity of either distillers' or ale grains and meal, and when a necessarily corresponding increased quantity of liquid is often not given, or not given at the proper times. The common names for this affection is grain-sick or maw-bound. I consider this one of the most serious diseases (apart from contagious diseases) because it frequently implicates the mammary glands and thus seriously affects the quantity of milk produced, and not unfrequently ends in the loss of one or more quarters. Probably the disease commences with simple indigestion or dyspepsia, going on if unheeded to plenalvia or severe impaction involving all the stomachs. These cases usually occur I should most certainly say in the late autumn, when the cows are brought into stalls, kept without exercise, whilst a considerably

increased quantity of forcing food is given; and when an insufficient or irregular supply of water is given and the stomachs are unprepared for the sudden change and extra work put upon them. As a rule the dairyman is not over anxious to call in the aid of the veterinary surgeon too early, so that often the case has assumed serious proportions before we see it. We are generally assured by the owner or attendant that the case is very sudden, but very often the symptoms have been of gradual development. I admit there are some very sudden and severe cases. Generally the early symptoms are, the hide begins to get tight, the coat looks rough and unthrifty, the cow does not give quite her full quantity of milk, the rumen is rather hard and full, the food is not quite cleared up, nor eaten with the usual avidity; rumination not regular and the animal does not look so bright and cheerful as she should do but is rather listless. At this period the bowels are still acting fairly well, the pulse is rather sluggish, and the temperature slightly below normal. These symptoms I believe are present in 19 out of 20 cases although often unnoticed by attendants, and it is at this stage that the veterinary surgeon could be of untold service to stock owners if he only had the chance. The contents of the stomachs are now beginning to get hard and dry, and the mucous membrane and walls of the organs becoming inactive. If we can get the cases at this period our endeavours must be to relieve the rumen by a good aperient, and then give nerve tonics and stimulants and pay particular attention to diet—take off all stimulating food and give a liberal allowance of gruel and linseed tea. But probably the case has become aggravated—the symptoms intensified. The rumen is very hard and full, a painful grunt will be heard on pressure or when the animal is made to move, cessation of rumination and appetite, and back arched, secretion of milk almost stopped, one or more quarters very hard and swollen, from which can be drawn only a watery fluid with flocculi, fœces of a watery character with hard dark lumps. I had four of such cases in my herd of cows in a week, due to a considerably increased quantity of distillers' grains being given. In the early morning of the day on which my attention was called to them, constant rigors were noticed, and in one case there was paralysis for two days; the pulse in each case was small, the temperature 100dgs. To my mind there was no doubt that in all these cases all four stomachs were involved, and I believe this to be so in all severe cases of impaction. My treatment was to have the abdomen well rubbed with mustard and water, and the animal well clothed, I gave oleum lini and oleum tereb. and chloral hydrat, followed at intervals with antacids, antiseptics, and nerve stimulants. The udders were well fomented, and rubbed with belladonna lotion. Two of the cases were very severe, and looked most unfavourable for 12 hours, but all four made a complete recovery, the cows returning almost to their full quantities of milk. I need hardly say that careful attention was paid to the diet, and the quantity of distillers' grains for the other cows reduced. I had only one slight case afterwards. We do not always get all these symptoms shown, some may be absent, others intensified; we may have very severe cases of impaction without any swelling of the udder, but I have never known a case where the secretion of milk is not affected. Sometimes tympany may be present. The causes may be various, coarse dry rough hay will far more readily produce impaction than good oat straw. I have never performed the operation of ruminotomy for impaction and I believe it has rarely been done in this country; if anyone present has done it I shall be glad to know with what result. It seems to me to be very difficult to prevent the ingesta passing into the abdominal cavity—also to determine at what stage of the disease to operate. I always feel that if the case is beyond the power of medicinal agents, the animal had better be seen by the butcher at once. My experience of the intra-venous injection of eserine in cattle has not been favourable, it seems to produce extreme contractions and pain without any corresponding beneficial results. My brother's experience also agrees with my own. The grunt that is heard in disorders of the stomach may readily be mistaken for that of pleuro-pneumonia; but the temperature must be our great guide, together with other symptoms present, and the history of the case.

The 3rd stomach, omasum, psalter, or manyplies may be called the 3rd dilatation of the œsophagus, and is situated on the right side of the rumen and reticulum, descending from before backwards, and is lined by mucous membrane disposed in broad folds. These are of varying breadth, from 12 to 15 in number, and form almost complete partitions; between them are others gradually diminishing in size. The external surface of the mucous membrane of these folds in coated with an epithelial layer, which, when the omasum is not entirely fresh is readily stripped off. Below this horny layer comes the mucous membrane proper; it is provided with papillæ which are larger and thicker than those of the reticulum. The mucous membrane consists of connective and elastic tissue fibres and blood vessels, in it are often found unstriped oblique muscular fibres. Glands are entirely absent. The folds of the mucous membrane are papillated on the surface, the eminences being flattened on the side and pointed at the edge of each fold. When the contents of this stomach are examined in animals slaughtered in perfect health they are always found dry, and there is a disposition for the epithelium to become detached in shreds and adhere to the pulpy mass. The œsophageal canal communicates with this stomach on the right, the lower angle is raised above the level of the third stomach, especially during the action of the gullet, so that it is only when the pillars are at rest and liquids and soft food are descending, or when the contents of 1st and 2nd stomachs strike against the canal, that any food enters into the omasum. The opening between the 2nd and 3rd stomachs is extremely small, coarsely comminuted food is therefore incapable of passing into the omasum. It is important to remember this, so as to endeavour to get rumination restored as quickly as possible in all cases of disease, as the longer it is delayed the more difficult is it to get it restored.

I have been unable in any books that I have read to find what is the supposed function of the omasum, but it seems to me to be a sort of safety valve to the true stomach, rather to regulate the quantity and condition of the food than for digestion, as we find the abomasum is comparatively small, and if the food were allowed to enter it too freely or in too liquid a condition it would not be possible for digestion to go on. By some there is a particular disease known as "staggers" clue bound "vertigo" or "fog sickness" attributed to the impaction of this stomach, but I am of opinion that it is next to impossible to allocate any particular set of symptoms to this particular organ. I believe that in many if not all severe cases of impaction, all the stomachs are involved, in some cases one more than another, but this particular disease I believe with Professor Williams is due to inflammation of the true or fourth stomach. When we consider that no coarse or partially masticated food can enter this stomach, and that it must mainly rely upon the first and second stomachs for its supply of liquid, it seems to me difficult and unreasonable to say that this stomach is the cause of a disease. It does not run the risk of the rumen, it has not the digestive work of the abomasum, and my experience is that impaction of the omasum alone does not exist. The symptoms seen in staggers, especially those of the brain, all point to the true digestive stomach being involved.

Before leaving this I should like to give you some

notes of cases my brother had in May of last year, and which he concluded were due to albuminoid poisoning induced by impaction and suspended function of the omasum.

May 1st, 1892. Called at 7 a.m. to go at once to a meadow about four miles from Dartford; one steer seven months old found dead, two others ill; on arrival the second animal was dead but warm.

Post-mortem examination of this latter animal. External appearance of body normal, no tympany of rumen, nor effusion of blood from anus or froth from nostrils; mucous membrane of nose very dry, slight catarrh from eyes, no subcutaneous extravasations. Purple patches on peritoneum, covering rumen, and intestines. Bladder half full, kidneys normal, liver good colour but rather soft, gall bladder full, rumen full of soft well triturated food, moist and normal; omasum as hard as a stone, and the contents dry and hard as powder, not a trace of mucus on any of the leaves, the mucous membrane of which crumbled away with the food as powder; purple extravasation at intervals in mucous membrane of intestines; ileoccœcal valve purple; contents of intestines liquid, of a gelatinous consistence and yellow in colour. Heart, pericardium and endocardium covered with petechial spots, especially on columnæ carnæ; both ventricles and auricles full of uniform black clot; lungs engorged with blood, the lobules being well defined on transverse section; bronchial tubes full of frothy mucus, mucous membrane dark purple; lungs floated in water. spleen normal.

No. 2. Heifer, dead several hours; viscera still warm in places, liver &c. All foregoing appearances present but much more intense. External appearance of body normal; excepting frothy discharge of mucus from nostrils, and conjunctival catarrh: no subcutaneous extravasations. Effusion of serum in pericardium, and whole of left pleura blood stained; endocardium almost black from uniform extravasation. Emphysema under capsule of left kidney but gland structure normal. Lungs as in No. 1, also omasum, dry, hard, and devoid of all mucus; ileoccœcal valve purple.

No. 3. Heifer, alive, very prostrate, anorexia, dry nose, profuse yellowish brown diarrhœa perfectly liquid; rumen full, soft, and no tympany; pulse 60 full, temp. 100·8dgs; resp. normal. Gave aloes and hypo-sulphite sodæ and left a diffusible stimulant and ant-acid to be given every six hours.

The remaining nine calves were treated with an aperient and their immediate removal was ordered. The animals had been feeding on a very rich pasture with a small allowance of hay, and had water from the river Darenth, 100 yards below a large paper mill. Two sheep had died in same field a week or two previously, the owner thought from overfeeding with maize. The calves had neither cake or maize. Unfortunately my brother does not state the condition of the mucous membrane of abomasum.

There are two interesting questions that may be asked about these cases. 1st. were they due to albumenoid poisoning? and if so would not the blood be affected and absorption take place from the true stomach and bowels, and the condition of the omasum be due rather to secondary effects, and not the primary cause of the disease? 2nd. or were they cases of gastro-enteritis due to some irritant, possibly the effects of the pasturage?

I may add that the river Darenth is noted for its good trout fishing, and some years ago great numbers of fish died from the effects of chemicals which came from the paper mills before mentioned; but in this case the water was analysed and certified as good river drinking water.

I think when we consider the intimate connections of the four stomachs, and how each one is really dependant upon the others for the effectual carrying on of its particular function, we shall see how unwise it is to state that this particular disease is due to one stomach, and that particular disease is due to another stomach, but that it is better to state the disease and give the symptoms, for after all we are bound in every case to consider the varied symptoms presented to us and treat the case accordingly. When we have tympany, or impaction, diarrhœa or constipation we must be guided in our treatment by the symptoms in the case before us. I believe it is utterly impossible for one stomach to be seriously involved without affecting the others.

Dyspeptic paralysis is very common amongst cows but is rarely of a serious nature, the ordinary symptoms of dyspepsia are present with the addition of paralysis, that the paralysis is due to the stomachs is proved by the fact that as soon as ever the stomachs are relieved the cow gets up, apparently as well as ever.

Injuries from foreign bodies is also common in the ox, the foreign body generally passing from the rumen before involving other organs. The symptoms are varied according to the parts affected. I will only give you the notes of one case of injury, by wire passing from rumen to heart, and one case where the wire must have passed through all four stomachs into the ileum.

On July 20th, 1890, I was called to see a young shorthorn cow. I found her grunting very much, her left pleura was very sore, temperature 104°, pulse quick and small, rumen moderately full, no tympanny, and bowels acting very well; heart sounds imperfect; I suspected heart mischief. The cow was treated, and apparently recovered; I left her on August 20th. I was again sent for on September 12th, when I found she had an enormous effusion between the fore legs and extending partly up the neck, the swelling pitted to the depth of half an inch; pulse almost imperceptible, and heart sounds indistinct. I considered my previous diagnosis confirmed, and I told the owner, I was of opinion that she had pus in the sac of the heart due to a wire or something of the kind, and that the case was hopeless. On the 17th I shot her and made a post-mortem examination; I found a fibrous canal extending from the rumen to the heart, involving the pleura, through which a wire or something had passed into the pericardial sac, which was thickened to the extent of about an inch and contained from 1½ to 2 gallons of putrid pus. I could not find the foreign body, which probably was lost amongst the stinking mass of pus; it was a sight and odour which one could not readily forget. The heart itself was not punctured, it was simply marvellous how an animal could live in such a condition.

As I shall not have time to touch upon bowel affections I will here mention another most interesting and somewhat rare case of wire injury:—Subject, a valuable Jersey cow (after her second calf produced 11lbs. of butter a week) which we were treating during parturition of her third calf and she was progressing favourably, the bowels were acting well and the cow ate what was given her. On the morning of the third day after calving we were sent for early to see her; we found her down, but sensible; in very great pain and restless, her nose was kept pretty constantly round to her left side, she continued in very great agony, moaning very much, but never became unconscious until she died. On making a post-mortem a piece of umbrella wire was found right through the ileum, twisted at one end, and was only removed with considerable difficulty.

I have not touched upon many important diseases such as "parturient apoplexy" although that undoubtedly it is due primarily to the derangement of the digestive organs; but so much has recently been written concerning it and as it would occupy a paper itself I have purposely avoided it. I have not said anything about poisons, nor colic, nor chronic diarrhœa in cattle, which often defies our skill and power to relieve, nor white

scours in calves, for my paper is already much longer than I intended, but I think I have said enough to give plenty of scope for a good discussion, so that some of us at least may derive some little benefit therefrom.

Let us all bear in mind that judicious dieting and good sanitary conditions with careful attention to details in treatment will materially assist our success in practice. "Remove the cause and the effect will cease" is a good axiom, but let us be careful that the animal does not slip through our fingers whilst the cause is being removed.

Discussion.

Mr. Prudames said that before he made any remarks upon the able paper they had just heard read, he must say that they all felt very much obliged to Mr. Edgar for the care he had taken in bringing forward a subject so varied in its character. He (Mr. Prudames) could quite realise the difficulties with which Mr. Edgar had to contend, and that he could not possibly grasp so many points he would like. It seemed to him (Mr. Prudames) that not one but a number of papers were requisite to deal comprehensively and effectively with the digestive organs of animals of the importance of the ox. One point raised by the paper to which they had just listened opened up a field for discussion of a character that was not possible on that occasion. He had listened to hear some account of that species of dyspepsia which was commonly known as spitting, or spueing the cud. He agreed fully with the essayist in his statement with reference to the amount of moisture required for cattle. It was undobtedly the very best plan with all feeding cattle to allow them to have water by them *ad libitum*, so that they might drink whenever they required. He had known instances where feeding cattle deprived of water had developed dyspepsia which was entirely removed when water was placed accessible for their use; and the owners apprehension that the beasts would drink too much and make themselves ill had proved groundless. He could not, however, agree with the essayist when he said that in all these cases all the stomachs were more or less affected. He (Mr. Prudames) had never yet witnessed a case of the impaction of the abomasum. He had noticed many cases of the impaction of the omasum, and even the first case quoted by the essayist from his brother seemed to prove that there might be such a thing as impaction of the omasum alone. The essayist spoke of vomitting not being frequent. No.! it was not. At the same time one met with such cases occasionally, and Mr. Prudames thought that several of them which he had chanced to come across might have been due to some poisonous agent. Cattle had a very peculiar habit of doing most extraordinary things. He spoke of country cattle with which he was more familiar. He knew of instances where manure having been brought from chemical works in the neighbourhood of London and deposited in a cattle yard in the country, cattle had undoubtedly taken some of this manure, and the result was acute indegestion accompanied with vomiting. With respect to another point: he failed to see the necessity of passing the probang twice or thrice in cases of choking if they were perfectly satisfied—which in ordinary circumstances they were—that they had removed the obstruction at the first attempt. He had also found, practically, that it was very rarely necessary to come to the last resort and have recourse to the trocar; that, as a rule they could, with the exercise of a little patience, allow the gas to escape sufficiently for their purpose by means of the probang. In that he endorsed what their essayist said. Let them use the probang by all means, and withdraw the stilleto, and repeat the withdrawal of the stilleto until sufficient gas had escaped to admit of the medicinal agents having their full effect.

Following the line of thought in reference to medicinal agents that had been already foreshadowed; he was of opinion that an aperient was good but it must not be too much in quantity and it must be followed by what was still more important,—a nerve tonic. He attached great importance to a nerve tonic in cases of impaction, particularly of the cow and, he might also add, of the dog. He had seen wonderful results from it. He could not quite agree with the essayist when he deprecated external pressure, because he (Mr. Prudames) had met with cases where by a little moderate pressure he had been enabled to pass on the obstruction. He would not carry pressure to excess, but a little moderate pressure in certain cases he thought desirable.

Those chronic cases of tympanitis of which mention was made were very unsatisfactory. He had had experience of several and had never been able to thoroughly clear up some of them. Of course if there was a foreign agent in the case that might account for the symptoms. It occasionally happened that in making a post-mortem examination he had discovered the presence of a foreign agent, which operated to produce indigestion each time the rumen was full. He knew of two or three cases where a nail passed out of the rumen as far as practical, the head of the nail remaining within so that when the rumen was full the point of the nail pressed between the inter costal spaces causing pain and tympany.

He had rarely met with the peculiar affection of the mammary glands to which reference was made as occurring in almost all cases of grain sickness. In cases with which he was familiar grain sickness did not occur, because deleterious grains and things of that sort were not used, but they got constant cases of indigestion from other indigestable materials. In these instances, however, there was seldom any interference with the mammary glands beyond the loss of milk. He rather hoped to have heard from their essayist some reference to special diseases, those of the reticulum for instance, but inasmuch as Mr. Edgar told them that dyspepsia or indigestion or disease generally involved each or the whole of the stomachs, and that it was difficult to diagnose one from the other, he (Mr. Prudames) could easily understand why the essayist did not take each seriatim and give them any information with reference to any special matter. A short time ago Mr. Prudames met with a case (he regretted that it wasnot practicable for him to bring a specimen there) of disease of the reticulum, which he could only explain on the hypothesis of the animal's having eaten frozen sweeds, because the reticulum was alone affected but to such an extent as he had never witnessed before except when there had been a foreign agent present. The description given by the essayist of pericarditis induced by foreign agents was verified in his (Mr. Prudames) experience. He had met with many such cases and each case proved fatal. One very marked point in connection with those cases was the extreme fœtor of the material—he hardly knew what to call it—in the pericardial sac. It was a mixture of vile fluids. He could scarcely give it a name.

Mr. Rowe stated that he had been called upon to treat horses from Regent's Park which were suffering from indigestion and temporary derangement through eating frozen carrots, and his remedy was a simple one—warm ale. Many coachman we know had recourse to this treatment last winter and to a nerve tonic. (A voice: strychnine in some form?) No, we always used tincture of nux vomica, five drops to the dose, seldom less for the dog.

Mr. S. Villar said that Mr. Edgar in his clever paper had introduced a pleasing novelty to that Society. He said "novelty" because cattle pathology and the Central Veterinary Medical Society were almost strangers to each other. He believed that cattle pathology, however, was daily assuming more importance in the veterinary

profession, and that they all ought to know much more about it than they did. Mr. Edgar had dealt with what was perhaps the most important of all the phases of cattle pathology; he had treated on diseases of the digestive organs of cattle and, except perhaps, tuberculosis, Mr. Villar was of opinion that all other diseases combined did not cause so many deaths amongst cattle as diseases of the digestive organs. The subject which Mr. Edgar had introduced was a very wide one, and as Mr. Prudames said, it would afford them material for discussion on several evenings. Hence with regard to the lateness of the hour and to the importance of the subject, he moved that the discussion be adjourned until the next meeting of the Society if that was agreeable to Mr. Edgar.

The CHAIRMAN:—Will you undertake to continue the discussson if your proposition is carried?

Mr. VILLAR:—That is I believe, the usual course when one moves the adjournment of a discussion at this Society; and I shall be very pleased to do my best.

The CHAIRMAN:—Mr. Edgar, will you agree to the postponement of further discussion? I may say that Prof. Macqueen expressed a wish that the discussion should be adjourned as he and other gentlemen have been obliged to leave in order to attend a meeting held to-night on the subject of stamping out glanders. That meeting too, accounts for the paucity of the attendance here.

Mr. EDGAR signifying his acquiescence in the adjournment of the debate, Mr. MAHON seconded Mr. Villar's motion which was carried unanimously.

VOTES OF THANKS.

The CHAIRMAN:—I do not think that we ought to disperse without according a hearty vote of thanks to Mr. Rowe and to Mr. Edgar for the very interesting post-mortem specimens which they have brought before us to-night. I have much pleasure in moving a vote of thanks to those gentlemen.

Mr. STAPLEY seconded the motion which was carried *nem con.*

Mr. ROWE and Mr. EDGAR having briefly acknowledged the vote, the meeting terminated.

H. G. ROGERS, *Hon. Sec.*

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

The annual meeting of the above Association was held on Thursday, 30th ult., at the Royal College of Veterinary Surgeons, Red Lion Square, Mr. J. F. Simpson, President, in the chair. There were present Sir Henry Simpson, Vet.-Capt. Raymond, Messrs. J. D. Barford, E. Langford, F. W. Wragg, J. B. Martin, and the Hon. Sec. Professor Penberthy, S. Villar, and H. M. Singleton, Esq., attended as visitors.

The minutes of the previous meeting having been read, Sir Henry Simpson moved, and Mr. J. D. Barford seconded, that the reply received from the secretary of the Board of Agriculture in answer to the resolution forwarded by the Association on the subject of glanders should be entered on the minutes.

Mr. F. Hobday, of Redhill, was, on the proposition of Mr. C. Pack, and seconded by Captain Raymond, nominated a member of the Association.

ELECTION OF OFFICERS.

Mr. J. F. Simpson was re-elected President on the proposition of Mr. J. Martin, seconded by Mr. J. D. Barford. The vice-presidents elected were Messrs. J. W. Barford, T. B. Goodall, C. Carter, and J. B. Martin. Mr. C. Pack was re-elected secretary and also treasurer to the Association.

After some discussion regarding the finances of the Association it was resolved to send a circular to all those members in arrear with subscriptions calling their attention to the same.

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

The SECRETARY then read a letter received from the British Institute of Preventive Medicine explaining the objects of the proposed Institute and asking for a donation; also a letter received from Dr. Fleming on the same subject.

The CHAIRMAN said that all Veterinary Associations had recognised the necessity of such an Institute, but it appeared to be the general opinion of members of the profession that they were not sufficiently represented on the Council of the Institute. There was a doubt also as to how contributions should be sent, whether the Associations should subscribe individually or send in their contributions in one amount.

The SECRETARY read a letter from the Secretary of the National Veterinary Association on the subject.

Mr. J. D. BARFORD said that the Association of which he was President had requested the Secretary to write for further information, as they considered that very little general information was given in their letter. The Association quite believed in the necessity of such an institution and were of the opinion that our Associations would do well to support the institution.

Vet.Capt. RAYMOND said that a letter had been received from Dr. Ruffer at the Central Association, saying that he had consulted Sir Joseph Lister with regard to electing more veterinary surgeons on the Council of the Institute, and he replied that when the building got so far that the work could be organised a fresh Council would be elected, and that no doubt more veterinary surgeons would then be put on the Council. He (Capt. Raymond) thought this reply was rather vague, and he considered that the Institute ought to conciliate veterinary surgeons by adding to their number on the Council at a very early date.

Sir HENRY SIMPSON said that the Royal College of Veterinary Surgeons could either take a broad view or a narrow view of the matter. There was no doubt that it was a national question, and he would have been more pleased if the Royal College of Veterinary Surgeons had taken a wider and broader view of the matter than they had done. Their action was like the man, who being asked for a subscription to a church, said "certainly, I will give you a subscription if I am to build the church." It was a national question and it was not right to ask what was to be done in the way of appointing additional veterinary surgeons on the Council while the Royal College of Veterinary Surgeons had not contributed one sixpence to the funds.

Vet.-Captain RAYMOND:—It is not a national question.

Sir HENRY SIMPSON said that it was called "The National Institution," and in his opinion it was a national question. It was not right to call it a private enterprise. The only reason why it was made a limited liability institution was because it could not be registered in any other way. A very large and influential meeting of members of the medical and veterinary professions was held, and a deputation waited on the Chairman of the Board of Trade, and the matter was fully thrashed out. It was a national concern, and very materially concerned the veterinary profession. He would have been very glad if the Royal College had given a donation because the Institution would go on whether the College contributed or not, and many thousands of pounds had

already been collected. During the period from 1880 to 1891 the Royal College had saved a sum of £5000, and he would have been glad if the College had decided to give a donation, of say £100 to start with, and to supplement that by saying that if, after a conference with the Directors or Council, the veterinary profession were satisfied that they would be adequately represented, they would be prepared to give a donation (perhaps extending over a number of years) of an additional £1000. The Southern Counties Association had but little money to deal with and therefore they could not give an individual donation, but that was his view with regard to the matter.

Veterinary-Capt. RAYMOND said he did not think the Institution was a national one. He had no doubt that the Institution would be a very good thing, but it was not a matter of national importance. In his opinion the Royal College of Veterinary Surgeons were not—at any rate as far as he was concerned—acting in a narrow sense, and they did not intend to do so. It was only right that the Royal College should protect the interests of the profession generally, and in a matter where diseases of animals were concerned it was only right the profession should be properly represented, and they were quite right therefore in standing out for adequate representation.

Mr. MARTIN said he gathered from the discussion that they all considered the Institution was a very laudable object. They had been very much in the background as regards bacteriology, and he thought they were all willing to co-operate with the other associations, and, when they saw their way clear, to contribute their portion towards the Institution.

Mr. J. D. BARFORD then proposed the following resolution:—"While recognising the principles of the object of the British Institute of Preventive Medicine, this Association is desirous of obtaining further information as to the objects of the Institute before promising to support it."

Mr. MARTIN seconded the resolution, which was carried *nem. con.*

The CHAIRMAN proposed that the Association should support the candidature of Mr. Wragg for election on the Council of the Royal College of Veterinary Surgeons.

Mr. MARTIN seconded the proposition, which was agreed to.

Vet.-Capt. RAYMOND proposed that the Association should also support the candidature of Mr. W. A. Edgar for election to the Council of the Royal College of Veterinary Surgeons.

Mr. J. D. BARFORD seconded the motion, which was agreed to.

The SECRETARY proposed that Southampton be fixed as the place of the meeting in June.

Mr. WRAGG seconded the motion, which was carried.

Professor PENBERTHY then proceeded to make some remarks on

ANÆMIA AND DIARRHŒA IN CATTLE.

Gentlemen: Some few days since your President asked me to read a paper or introduce some subject for discussion at this meeting. Had any matter been at my disposal, time would not have permitted, but I replied that should no one be found to engage the task, as the date was fast approaching, I would be glad to occupy a little of your time by exhibiting some specimens of nematodes found in the stomach and intestines of bovines in association with anæmia and diarrhœa, and to make a few remarks on the same. This explanation I think is due to you on account of the prominent position which my name occupies in the agenda paper. I venture, however, to hope that though the specimens may not be so complete, nor the remarks so prepared or elaborate as I could wish, that you will deem the matter worthy of your attention for a short time. We have heard something about the British Institute of Preventive Medicine and most of us recognise the importance of the studies which it is proposed to carry on therein, but I cannot help thinking that since the discovery of bacteria and the relegation to them of such an important role in the production of disease, what we may call a bacteria *furore* has been established, and there has been manifested some little indifference to the study of the grosser causes in the production of disease, sometimes a disposition "to strain at the gnat and swallow the camel." (Hear, hear.)

Any of us who have been associated with mixed country practice—and I claim to be associated with country life, having been born naturally to it, and to be associated with country practice on account of being in constant intercourse with a large number of men practising in different parts of England—cannot have failed to have met with a form or forms of anæmia, associated with diarrhœa in cattle; one of an acute the other of a chronic character, and most of us have experienced very great difficulty in dealing with the conditions. Now, the most striking form in which this appears to us is that affecting young cattle, usually from nine months to two years old. This, since I have been making some special enquiries about the matter, I find is not limited to my part of the country, but affects herds in almost every county; and since I wrote a letter to *The Record* asking my friends to send me specimens, I have received a very large number, and I should like to take advantage of this occasion to, in the first place, offer my thanks to those gentlemen, and then to say that I shall be very glad to receive further remittances, if they will kindly send me portions of the abomasum and of each of the intestines of animals so affected.

The symptoms of the condition are a more or less rapid loss of flesh, which often precedes and always follows an acute diarrhœa, in which the discharge is of a particularly liquid character, and usually ejected with much force. The visible mucous membranes are pale and, if the blood be examined, it is found to be in a peculiar condition, often noticed in man and other animals suffering from pernicious anæmia; there are very large corpuscles, very varied and peculiar in shape. Appetite usually remains, animals get weaker and weaker, the diarrhœa becomes more urgent, listlessness more marked, and death ensues in a longer or shorter time. It is not at all uncommon for a third or a half of a small or large herd of young animals to succumb to this disease, which is very frequently attributed to vegetable, animal or mineral poisons, to sewage, or tuberculosis, and we know two or three instances in which it has been put down to starving.

Anent the last, let us take a case which is perhaps not thoroughly characteristic, but which shows how far the disease may go, and how striking it may be. This is a case of very recent occurrence. 'Last Wednesday week a gentleman in the profession sent me parts of the viscera of two young cattle which had died, asking me to examine them to see if I could find any tuberculosis. I could find no tuberculosis, and I reported so to him. On the following Friday afternoon he called and asked me to go with him and see these animals, because they were still in a very bad condition, some of them dying. He then detailed the symptoms, which were characteristic of this anæmia and diarrhœa. I had, fortunately, not destroyed the other specimens, so searched the mucous membrane, (about an inch square) of the intestines, and there I found many nematode worms, specimens of which we have under the microscope. After a conversation, as to the history of the cases, it was almost a foregone conclusion what was the matter with them, but at the suggestion of the veterinary surgeon I visited them.

The animals belonged to a wealthy man who farmed for

pleasure and who kept about 200 or 300 cattle. He had taken about 270 acres of good grass since last June, and had spent large sums in artifical food a fair supply of which these cattle had been eating during the winter—in addition to the grass which they might pick up. There was every reason for supposing this was good food, turnips, straw and meal freshly pulped and mixed every day, and nothing injurious could be attributed to it. In the summer of 1892,50 of the cattle in the park died. In November last 123 were put into another park, and out of this lot there were only 80 remaining, so that 43 had died in five months. This remnant had been brought to the home farm, and separated from the general herd were 17 that were said to be in a characteristic condition, and appeared to be placed apart to die. They were standing or lying about the field in a very emaciated condition, with ample evidence of profuse diarrhœa, and one or two were near death. We had one shot, and made a post-mortem examination, which was characteristic, that is to say, throughout there was evidence of want of blood and emaciation, the viscera yielding no signs of other disease before opening into the abomasum and intestines. Here there was evidence of inflammation and irritation, and on feeling over the surface of the membrane one found occasionally here and there little nodules. On scraping a little of the mucus from the abomasum and the cœcum, as much as would just go on the point of the knife, and examining it under the microscope with the quarter inch, numerous small parasites were visible. I have seen parts of as many as 8 parasites under the quarter of an inch magnification, and I never failed to find them in large numbers on each slide though I examined more than thirty. These parasites give evidence that they have the blood of the animal in them. If we examine them closely we shall find that they are sticking head foremost under the epithelium of the mucous membrane. In my opinion they extract the blood from the vessels, at the same time naturally causing a considerable amount of irritation, and in some cases, depending on their numbers the most intense inflammation. The structural changes are most marked in the abomasum and cœcum, and in those cases we find the worms which are on the table for your observation.

We know it is very commonly said by observers that the dog, the cat, the horse and the pig nearly always have round worms in the intestines, and that is the normal condition. That donkeys and mules also have them, though not so frequently, and that the goat and the ox have them very much less so. If the animal is sufficiently strong and if the condition does not favour the growth of these nematodes in numbers, we can quite understand that we shall have no appreciable symptoms, but when the relations are reversed and we find the parasites in myriads and realise that they are blood suckers, we must look for some pathological results. These results in my opinion are as we should expect from this constant blood-sucking and irritation, viz: a pernicious anæmia and diarrhœa.

In association with these smaller worms I have very frequently found the tricocephalus affinis and strongylus contortus sometimes in large numbers; also numerous ova and larvæ. I have met with ova and larvæ in various stages of development and, though I know nothing of their life history or development, this suggests the possibility that these worms require no intermediary bearer but that the whole cycle of their life may be maintained inside the host. If this be the case we can understand that in some instances the disease may be a slowly or rapidly progressive one.

In those cases which have assumed an acute character and have proved more rapidly fatal I have usually found three varities of worms. The largest, a strongylus, though not usually detected in the mucus by the naked eye, when carefully separated from the mucus and placed under a cover glass on a slide may be seen as a fine short scratch. Placed under quarter inch objective the two sexes are easily differentiated. The length of the male and female does not vary as much as is common with strongyles; it may be roughly stated to be from 3-25ths to 6 25ths of an inch. The female is pointed at each extremity, usually containing ova relatively large, the vulva situated near the posterior extremity. The male is provided with a bilobed bursa supported by eleven rays, four on each side, and three centrally placed, more distinct, and the middle bifid at free extremity. Above the bursæ is a retracted double spicule, dark and prominent.

Another parasite, which I have found only in those cases proving very fatal, is shorter, about $^2/_{25}$ of an inch, perfectly straight, pointed at each end and much narrower than the foregoing. I have only met with females. This I am disposed to regard as *angillula intestinalis*, which is accredited with inducing pernicious anæmia in various species of animals.

The third worm is longer than the latter and shorter than the former, pointed at both extremities, which are usually curved inwards; the anterior part of the body has transverse markings.

I do not claim that either of the parasites mentioned is new to science, though neither in our own or foreign literature do I find a description tallying to that of the first, nor attributing the disease I have described to the presence of parasites. My views as to the parasitic nature of these two forms of diarrhœa and anæmia in cattle have been supported by the results following administration of vermicides.

In the chronic form it has usually been regarded as due to tuberculosis, and the subjects recognised under the terms "Wasters," "Skeinters," "Skanters," "Hitters," "Piners," etc., and it is probable that in some cases tuberculosis may induce similar conditions. My experience tends to the view that it is very rarely a cause. I have made many post-mortem examinations, and though in some cases there was evidence of tubercle, I have found those lesions no more frequently than I should expect to in making examinition of carcases and viscera of cattle dying of pleuro-pneumonia In the majority of cases the finding of tubercle is probably but for tuitous. It was really the absence of tubercle in these reputed cases that led me to search the alimentary mucous membrane. In 1889 I found the parasite first described, and detected remains of worms in caseous or calcereous nodules in the walls of the intestines.

The treatment I have usually advised is the administration of assafœtida to young and much emaciated animals, to be followed with salt, iron, and gentian, and good food. To the the stronger, turpentine, carbolic acid, creosote, etc., followed up as in case of the weaker. I think it advisable to administer the tonics and salt to all young cattle which have been placed under the same conditions. Our losses from gastric and intestinal parasitism are by no means limited to bovines. In sheep we meet with a condition of anæmia and diarhœa due to strongylus contortus and other worms which usually proves very fatal. The sclerostoma tetracanthus is responsible in the horse; and in hares and rabbits I have found blood-sucking strongyles producing the greatest destruction.

I feel, Mr. President, that I may have too far trespassed on your time with my crude remarks, but I am inclined to think that this is an important condition, and I ventnre to hope your time has not been altogether wasted in hearing these statements from me on what I regard as the cause of so serious a condition—a condition which is known by many to bring about very large losses and sometimes ruin to stock-owners. It appears to matter little what extra food is given to animals suffering from this disease, they seem, sooner or

later, to succumb unless the fact of the helminthiasis is recognised and treated on the principle of worms in the alimentary canal. I have a lot of specimens here. You will be able to manipulate them as much as you like. You will see the nature of the parasites, and when you have looked at the strongyle you will observe that it is smaller than any of the others, not reaching half the length or breadth of the strongylus contortus of the sheep, with which it cannot be confounded. I shall be extremely glad to hear your experience of this condition, and if I can, to answer any questions concerning it.

Professor Penberthy then exhibited naked eye and microscopic specimens of the worms from cattle, of the *sclerostoma tetracanthus* of the horse, *strongylus cortortus* of the sheep, the *triocephalus affinis* of the ox, *strongylus strigosus* from stomach and intestine of rabbit, and a strongyle from the stomach of the hare.

On the motion of Mr. J. D. Barford, seconded by Mr. Wragg it was decided that the discussion should be adjourned until the next meeting.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting of this Association was held at the Blackfriars Hotel, Manchester, on Thursday, March 30th. The President, W. A. Taylor, Esq., occupied the chair. Present: Messrs. James Laithwood, A. H. Darwell, J. T. Thompson, J. W. Bennett, G. Howe, J. H. Carter, J. A. Meredith, T. Greaves, E. Faulkner, Sumner, W. Woods, Jos. Abson, S. Locke, T. Hopkin, R. Hughes, J. L. C. Jones, H. Ferguson, S. L. Buckley, and J. B. Wolstenholme.

The minutes of the last meeting were taken as read.

Proposed by Mr. T. Hopkin, and seconded by Mr. E. Faulkner that Mr. Frank Garnett, M.R.C.V.S., Bowness, Windermere, be elected member of the Association. Carried unanimously.

On the motion of Mr. T. Hopkin, seconded by Mr. Hughes the best thanks of this Society were given to Messrs. Thomas Greaves and William Whittle for their long and faithful services as representatives of this Association in the Council of the Royal College of Veterinary Surgeons. Carried unanimously. It was also directed that the same be recorded on the minutes.

Mr. Greaves, in reply, thanked the members for their appreciation of his services in the many past years. He had always considered it a high honour and a privilege. He thought it was better that younger men should now take on that duty.

The late treasurer, Mr. Hopkin, laid the balance sheet of the Association for the last year upon the table, which was adopted.

The communications received relating to the British Institute of Preventive Medicine were then considered, and were further adjourned to the next meeting pending the receipt of information as to certain particulars.

Mr. Hopkin showed the lungs of a lion which had died of pneumonia and detailed his efforts in treating the case, giving tincture of aconite and solution of carbonate of ammonia in the drinking water as the stages of the case seemed to require; also the manner in which by means of stable forks they applied rugs wrung out with hot water to the chest.

Veterinary-Captain Meredith exhibited the skull of a horse divided by longitudinal section showing extensive disease of the sinuses on the left side. He also exhibited a number of interesting photographs illustrating cases of wry-neck in troop horses.

Mr. J. T. Thompson showed a portion of the small intestine in which the coats were hypertrophied to such a degree that the bowel did not collapse, but maintained its calibre in a similar way to an artery. The cause of death had been rupture of a portion of bowel, there was no previous history of colic. He also related a very interesting case of hæmorrhoids in a horse, in which a loop of vessel 18 inches long and another about 12 inches long, pear-shaped, each having a diameter of three to four inches in the thickest part, were hanging from the rectum, filled with blood. Having ligatured the peduncle, he removed them. The horse made a good recovery the sloughs coming away in about a week after.

Mr. J. H. Carter showed a number of bones, and sections of the same, which he had obtained from the abattoir at Burnley. Extensive change had taken place in each, the nature of which had not been agreed on. A marked and constant feature was their colour, which was of a bronze hue and pervaded every part of the bone. The gums and teeth were also tinged in like manner.

Mr. George Howe related a case of thickened small intestine, similar to Mr. Thompson's case.

Mr. J. L. Buckley showed a number of specimens—dry portions of intestine showing local lesions of swine fever in a remarkably distinct form.

Mr. J. B. Wolstenholme showed microscopic sections of primary and secondary deposit of round celled sarcoma from a dog, and a section of osteo-sarcoma from the mammary gland of a bitch.

Jno. B. Wolstenholme, Hon. Sec.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A meeting of this Association was held in the Imperial Hotel, Darlington, on Friday, March 3rd, 1893, at four p.m. Mr. F. R. Stevens, president, in the chair. There were also present Professor Penberthy, London; Messrs. J. E. Peele and A. Stevens, Durham; W. T. Briggs, G. J. Harvey, W. N. Dobbing, and C. G. Hill, Darlington; J. G. Deans, P. Snaith, H. H. Roberts and J. R. Crone, Bishop Auckland; A. Peele, West Hartlepool; John Nettleton, Northallerton; and W. Awde, Stockton-on-Tees.

Apologies for non-attendance were received from Professors Williams and Walley; T. Greaves, Manchester; and Mr. G. E. Nash, Richmond.

The minutes of previous meeting were confirmed.

A letter was read from Mrs. Gelsthorpe thanking the members for their letter of condolence in her sad bereavement.

A communication was read from the British Institute of Preventive Medicine asking for financial support, and it was decided that the Association give a donation of five guineas towards its funds but that it be left in the hands of the following committee to decide whether it should be sent direct or through the National Veterinary Association or the Royal College of Veterinary Surgeons, Messrs. Stevens, Nettleton, Peele, Senr., Snaith, and the Secretary.

Mr. Peele, Senr., informed the members of an outbreak of pneumonia in pregnant ewes which had been traced to the presence of strongylus rufescens.

Mr. Briggs showed the skin (dried) from the udder of a cow with only two teats developed, and also a diseased foot from a pony.

The discussion on Mr. Brigg's paper, adjourned from a previous meeting, was concluded, and a hearty vote of thanks accorded to him, proposed by Mr. Awde and seconded by Mr. Stevens.

Mr. A. STEVENS, Durham; Mr. J. R. Crone, Bishop Auckland; and Mr. F. Tonar, Darlington, were then elected members of the Association.

Mr. STEVENS then proposed, and Mr. Nettleton seconded that the members do have an annual picnic. Each member to bring his wife or a lady friend. It was left in the hands of Messrs. Deans, Peele, Junr., Roberts, Snaith, Harvey, Stevens and the Secretary to arrange place and date &c. and report to the next meeting. Carried.

MEAT INSPECTION.

By PROF. PENBERTHY.

Complying with the request of your President to introduce a subject for discussion, I am acting in accordance with his suggestion in bringing forward that of "Meat Inspection."

It would be manifestly absurd to attempt to deal in detail with the whole subject in the time at our disposal, and I propose to touch only on those points affording most ground for debate or which demand our most emphatic expression.

Under this head I mean to include the inspection of the supply of milk and animal flesh intended for human consumption, and my first premiss is that at present this is incomplete and unsatisfactory. Common experience and experimental pathology have laid bare many facts concerning the effect of food from animal sources on human health. The communicability of several diseases of animals to man has been established, and we regret to say that much of the work done is so far abortive on account of the absence of systematic application of the knowledge acquired. The Government of our country has been remarkable for having directly lent no aid to pathological investigation, and the British public for its apathy in the advance of pathological science; to the energies of private individuals and institutions it has been left to carry on work in this direction. In other countries we find public funds devoted to the regulation of matters so important to the public good, and it appears to us little less than a national disgrace that so little is done in this great flesh eating country to protect the consumer of animal food against dangers and frauds which are imminent and palpable.

It is beyond the region of doubt that milk and flesh detrimental to human health are constantly sold and consumed, and that systematic inspection would be a barrier to the traffic and consumption. There is evidence of a half-hearted recognition of the fact in a piece-meal legislation. Thus we have the "Dairies, Cowsheds, and Milkshops Order" and the "Public Health Act," and some large Corporations, as those of Edinburgh and Newcastle, have acquired certain special powers by Act of Parliament. I venture to express the opinion that if provisions beneficial to large and powerful corporations are provided for them by special Act of Parliament such provisions should affect the whole country, and that the time has arrived when the food supply of the whole population should be regulated by comprehensive and compulsory measures. The "Milk Shops and Dairies Order" contains regulations as to cleanliness, etc., but if milk may be contaminated with specific communicable disease before it reaches them, any system which does not control the supply at its source must be incomplete and to a large extent ineffectual. Milk may be contaminated after it is drawn from the cow, and we know of no more facile means of distributing disease germs than through the milk supply, but in order that inspection may be effectual and security near completeness we must proceed another step, and every cow as well as every cowshed should be under the inspection of a competent authority. This authority can be no other than the veterinary surgeon, and on his fiat should rest the settlement of the question as to the purity of the source. At the present time we know of no Act or Order which confers such power on members of our profession. However, in an Order of the Local Government Board of March 28th, 1889, defining the duties of the Medical Officer of Health is the following: "He shall himself inspect any animal, carcase, meat, flesh, or milk, and if he finds that such animal or article is diseased or unsound or unwholesome or unfit for the food of man, he shall give such directions as may be necessary for causing the same to be seized." We know that in some instances the wisdom of the Local Authority and Medical Officer leads them to consult the veterinary surgeon, but his services are only engaged on sufferance as it were, and this position is far from satisfactory. To entrust the inspection of milk and flesh to the layman is nothing short of a scandal and totally unworthy of our consideration.

It is undoubtedly the special province of the Medical Officer to conserve the health of man and to relegate the whole duty of meat inspection to the veterinary surgeon would be almost as absurd as to place the doctor in control of the diet of the domesticated animals. This by no means relieves the veterinary surgeon from a share in the inspection of the food of man or from the necessity of specially preparing himself for the duty. His professional education and his life work afford him opportunities for acquiring that special knowledge which is not otherwise obtainable. The studies of comparative anatomy and pathology are important items in our educational curriculum, and the Royal College of Veterinary Surgeons in extending its course has indicated a desire to ensure competency in this direction by specialising "meat inspection" as a subject of examination. There can be no question that the condition of live cattle and of animal tissues on post-mortem examination is the special province of the properly educated veterinary surgeon. It cannot however be expected that the final settlement as to fitness for human consumption will be left solely to him. Our view is that this matter should be determined by the joint opinion of the medical officer and veterinary inspector.

The knowledge gained by local veterinary surgeons acting as inspectors would bring corollary advantages. With it must come a more intimate acquaintance with communicable disease existing in his district, and if his findings were reported to a central authority it must prove a great power in the suppression of disease and proper disposal of carcases, offal etc. Evidence is not wanting that the medical profession is alive to the necessity for fitting themselves for their duties under this head. Beside marked tendency towards the study of comparative pathology, there has been established a specialexamination in public health for the department of public health, and no person, after January 1892, may be appointed a Medical Officer of Health unless he hold a diploma in sanitary science, public health, or state medicine. While we claim a special position in this matter it behoves us most carefully to prepare ourselves for it, as the responsibilities it entails are serious.

The cleanliness of dairies and milkshops may not fall under the practice of a veterinary surgeon, but the Sanitary Inspector or Inspector of Nuisances should act under his direction or guidance in matter of cowsheds, slaughter-houses, disposal of carcases, disinfection, etc. The means by which these conditions may be enforced, whether compensation should be paid to owners and such things are matters in which the veterinary surgeon has no special interest beyond that of a ratepayer or citizen. I fear we have been apt to occupy ourselves a little too much with such questions, sometimes possibly losing sight of the necessity of fitting ourselves for proper professional work and of impressing on the public mind the importance of the subject.

Entering on the consideration of the work of an inspector of meat, we may not lose sight of the fact that

our function in that capacity is the preservation of human health and the protection of the consumer from fraud, and as a sequence only, the lessening of disease amongst animals supplying our food. The purchaser of milk and flesh has a perfect right to demand a sound article for his money, and I venture to think that this should have a great influence in our decision in cases where doubt may exist. Into the arguments as to fitness are often imported such remarks as "the bacilli are destroyed by so much boiling" or "cooking to a certain degree of temperature" or "rendered innocuous by so many hours action of the gastric juice," etc. If it is illegal for the grocer to sell the harmless margarine as butter it surely should be illegal for a milk seller or a butcher to expose for sale cream, butter, or flesh with contaminations which are distasteful and possibly highly injurious. Guided by this principle the inspector is likely to err only on the right side, and if the system is found to press hardly on the farmer or middleman means of rectification will be forthcoming, and greater circumspection and perhaps sometimes honesty will be exercised. Regarding the regulation of the milk supply there are some orders supposed to be in force now—the Dairies, Cowsheds, and Milkshops Order 1885. I would go further than this, and have every milch cow and cowshed subject to the periodic examination of the veterinary inspector, who should certify to the fitness of each animal to supply milk for human consumption whether for sale or private use. As a guide to the inspector I think it should be taken that in case of evidence of disease being communicable to man, or where there was general disturbance sufficient to induce elevation of temperature, or local changes in the udder, or to deteriorate the blood, that such milk should not be offered for sale nor made into cream or butter. This would include such specific diseases as anthrax, black-quarter, cattle plague, foot-and-mouth disease, variola, parturient fever, simple, septic and tubercular maminitis, etc.

At the present moment there are few parts of our subject more under discussion than that of the sale of milk from tuberculous cows. In milk from tuberculous udders, as well as from animals affected with general tuberculosis, the tubercle bacilli are sometimes demonstrable; but it is not always possible to demonstrate their presence from milk which proves to be infective. Therefore we have no means of determining except that of experimentation on small animals. Though it may not be possible to speak definitely as to which case of tuberculosis will or will not yield tubercle bacilli or spores in the milk, we should have no hesitation in preventing the sale of milk from tuberculous cows. This practical condemnation of the tuberculous cow, especially if associated with isolation, must have a permanent beneficial action in limiting the existence of bovine tuberculosis.

Our knowledge of the communicability of some of the specific diseases of animals to man, and the deleterious effect of animal tissues rendering them dangerous to health and of inferior nutritive value, force on us the conviction that a system of thorough inspection of flesh intended for human consumption is necessary. No system can be perfect which does not bring under examination every carcase, and we hold that it should be illegal to offer for sale any carcase which had not been declared fit by the properly qualified officer of the authority in whose district the animal was slaughtered. In every town and district where practicable there should be public abattoirs. Private slaughter-houses should be registered as at present, and under such control that the above condition of inspection of every carcase could be fulfilled. This system has the great advantage of allowing opportunity for examining the viscera, which we regard as very important. The principal objects of inspection are the detection of communicable disease or other conditions deleterious to human health. The determination whether the flesh is of the animal purported, and to some extent if it be of poor nutritive value. These are better ascertained if the viscera be examined than otherwise, and the proper disposal of diseased carcases etc. must prove a means of preventing disease amongst animals. It is not illegal to sell horse-flesh for human consumption, but it must be labelled as such, and though there are certain differences such as coarseness of muscular fibre, nature of fat, odour etc. which may give us an approximate idea as to the animal of which the flesh is part, all difficulties would be removed by an examination of the viscera. Again and more important is the fact that we may gain evidence which is not forthcoming from the carcase. At the outset it is essential that the inspector of meat should have a proper appreciation of the state of healthy tissues and the laws which govern them, as well as experience in detection of deviations therefrom. A sound veterinary education in conjunction with the cultivation of ordinary powers of observation should supply the necessary knowledge.

Next comes the important consideration of the conditions which render flesh unfit for human consumption. Of some there can be no reasonable doubt, of others some doubt may exist, and we think that, while in the one case we have no hesitation in condemning and destroying, until the element of doubt can be removed the intending purchaser should have the benefit, and that some means (as labelling) should be adopted to let him know the element of risk.

Meat from an animal suffering from a disease whose causal factor will induce the same disease in man will be in the majority of cases condemned. Under this head will be included, Anthrax, Glanders, Rabies, Trichinosis, Measles of Pork, Beef, etc.

Opinions, however, differ as to the treatment of the flesh of animals suffering from localised tuberculosis, actinomycosis, etc. We think that, until some more definite knowledge as to the danger likely to arise from the eating of such meat has been gained, it should be sold as coming from a doubtful source.

Then we have a class of diseases due to microbes which do not induce their specific effects in man, but undoubtedly deteriorate the tissues of their host and leave ptomaines there. By common consent such carcases are condemned. In this category come swine plague, cattle plague, pyæmia, black-quarter, variola ovina, etc.

Further, there are some diseased conditions whose pathology is still obscure and from the eating of which no ill consequences have been made known *e.g.* parturient apoplexy. This we would relegate to the class to be distinctly marked. There are also to be considered certain changes which may occur after death, and here experience must, to a large extent, guide us, for example, the differences of putrefaction in game and in common flesh.

Prof. PENBERTHY then entered further into details on some of the conditions named, and concluded his remarks by urging the necessity for giving publicity to our opinions on these matters and suggesting that some definite resolutions should be passed as to the advisability of systematic inspection of cows and cow-sheds, slaughter-houses, carcases, viscera etc., and for more united action of the Local Government Board and the Board of Agriculture.

W. AWDE, *Hon. Sec.*

A special meeting was held on Tuesday, April 4th, 1893, at four p.m. Mr. Stevens, President, in the chair. The meeting was convened for the purpose of considering communications from the North of England Association with regard to the present election of members of Council. The general opinion seemed to be that the North of England was decidedly under-represented in

the Council of the Royal College of Veterinary Surgeons, and it was decided to nominate the Hon. Secretary and to endeavour to secure his election by asking the co-operation of the North of England and other Associations.

W. AWDE, Hon. Sec.

ROYAL VETERINARY COLLEGE VETERINARY MEDICAL ASSOCIATION.

The 178th ordinary meeting was held in the theatre of the College on Wednesday, April 12th at 6. 30. p.m. There were present Mr. Wild, President, in the chair, Professors McFadyean, Macqueen and Shave, Mr. Coghill, Dr Johnson from Cape Colony, and fifty-three student members.

The minutes of the last meeting were taken as read. The president then introduced to the meeting Dr. Johnson who he said had recently been making investigations at the Cape on the subject of Contagious Pleuro-Pneumonia, and invited him to read his essay on that subject. Dr. Johnson in his essay said "pleuro-pneumonia" is very prevalent in South Africa and is not confined to bovines. In cattle it is endemic, due to a short brownish bacillus, which are grouped together like staphylococci, and has a halo around it: the organism can be cultivated on nutrient gelatine which it does not liquify. I have inoculated the rabbit with no success, in one case in which the inoculation was made into the trachea, on post-mortem the lungs were found congested and filled with fluid. The pleura seems to act as a filter, which may account for the difficulty in finding the organism in the clear serous fluid of the pleura. Death rarely occurs before the lung reaches the marbled stage of grey hepatisation.

The treatment of such cases must be prophylactic, an immunity being afforded by inoculation. The stock farmers keep their stock free by importing an infected animal, killing it, and inoculating the rest.

Modes of Inoculation. 1st.—Make an incision in the tail, and in it place a piece of diseased lung and tightly bind the part with a bandage. The part usually becomes gangrenous, when this takes place the tail is cut off.

2nd method.—The animals are drenched with ½ to 1 pint of the serous fluid taken from the pleural cavity. When this method is carried out in the spring satisfactory results follow; when done in the winter lesions are found in the mouth due to the wounding of the membrane by dry grass.

3rd method, and the one which I usually employ. Take an affected animal and after it has shown symptoms of the disease for a week kill it, remove very carefully the skin, and without allowing blood to run in, open the pleural cavity, collect the fluid found there in sterilised flask, in this soak thread; these threads are passed through the tail with a needle, and left in for a week; if inflammatory symptoms show themselves the seton is immediately removed and the part kept perfectly clean.

In the horse the disease is known as horse sickness, but I do not known whether it is caused by the same organism as that of cattle; horses do not show symptoms until shortly before death, and they die in a more acute stage. The ox stands for days in same position; head poked out and respiratory movements labored. The horse only shows these symptoms for a very short time, and then goes down and dies.

Post-mortem appearances. Blood dark and not coagulated, mucous membrane congested; death due to suffocation from the fluid in the bronchi, the pleura is very much thickened. At first the disease is in the pleura from which it spreads to the lungs.

When there is an outbreak in cattle horses seem to escape the disease, but where there is an outbreak in horses cattle also become infected.

It is not a disease of the stable, and animals do not readily contract it if taken in before sunset. In the ordinary sense of the term the disease is not infectious, for example, one mule which had been driven with three others died of the disease whilst the others escaped. Horses inoculated with serous fluid from patients of horse sickness suffer only from slight febrile symptoms.

Some natives who had contracted the disease died on the third day in a state of delirium, and on post mortem the lungs were found in a state of red hepatisation. I inoculated three infected natives, all of whom recovered. The inoculation was made in the arms, which they said felt very heavy after the operation.

Life History of the Organism. It is of ground origin, and most probably malarial. Always found where the ground has been disturbed; heat (moderate) and moisture are necessary to its life; the disease disappears in cross breeding, and great dry heat and frost kills the organism. It is possible that it may be due to the same organism as that of the ox in a different stage and under different conditions. In conclusion I would urge compulsory inoculation of all new stock and slaughter of infected animals.

Prof. MCFADYEAN proposed a hearty vote of thanks to Dr. Johnson for the trouble he had taken in bringing forward his views, and in the course of his remarks said "Although not liking to disagree I must say that the organism is not saprophytic, nor in the soil, or what would be the use of slaughter? In Holland the disease had been stamped out by the Slaughter Act at great expense, and I think the Government of the Cape would be ill advised if they adopted a compulsory inoculation. Better follow the example of England and Holland.

Prof. MACQUEEN seconded the vote of thanks, which was accorded Dr. Johnson by the Chirman amidst applause.

Dr. JOHNSON briefly thanked the meeting, which closed the proceedings.

E. E. SELDON, *Assist. Sec.*

ARMY VETERINARY DEPARTMENT.

BOMBAY GOVERNMENT GAZETTE (EXTRAORDINARY.)
Friday, 17th March, 1893.

NOTIFICATION. JUDICIAL DEPARTMENT.
Bombay Castle, 16th March. 1893.

No. 1693.—The following list of gentlemen appointed under the provisions of Section 23 of the Code of Criminal Procedure, 1882, by His Excellency the Governor in Council to be Justices of the Peace within the limits of the Town of Bombay, is published for general information in supersession of all previous orders for the appointment of Justices of the Peace in the said Town.

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Veterinary Captain James Mills, M.R.C.V.S., Highl. and Agl. Socy. Scot.

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By order of His Excellency the Right Honourable the Governor in Council,

W. LEE-WARNER,
Secretary for Government.

EXTRACTS AND NOTES.

PROSECUTION BY THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Veterinary Shoeing Forge.

On Monday the 17th April, before Mr. Fenwick, at the North London Police Court, James McIntosh of Flowers Mews, Archway Road, Upper Holloway, was summoned at the instance of the Royal College of Veterinary Surgeons for an infringement of the 17th section of the Veterinary Surgeons Act.

Mr. Thatcher conducted the prosecution on behalf of the College, and stated that defendant displayed a board on his premises with the words:—"J. McIntosh, Veterinary Shoeing Forge, Smiths' Work in all its Branches." He desired to call the magistrate's attention to the fact that the word "veterinary" was crossed through with a thin line, so that the defendant might say that he had complied with the letter of the warning he had received from the College, but he certainly had not done so with the spirit. Mr. Thatcher then drew the attention of the magistrate to the case of the R.C.V.S. v. Robinson, 61 Law Journal Reports M.C. 146, and said if the magistrate was satisfied that the striking out of the word was a mere colorable evasion a conviction must follow. He put in the Register, and the authority of the College to prosecute; and called James Aldous as a witness, who deposed to the facts as stated in the opening, and in answer to the magistrate said that the board was about eight feet long and about two feet wide, and was placed on the top of the house, that if it was looked at in one direction the crossing out of the word could be seen, but not if looked at in another. He thought the letters of the word "veterinary" were about nine inches long and that the crossing out line was about two inches wide.

The Magistrate enquired if the board was in court or a photograph of it.

Mr. Thatcher explained that he had no means of compelling the defendant to produce the board in court, nor would a photograph have been of any assistance on account of the color.

The defendant said that he had received a notice from the College, and thought that by placing the line as he did he was complying with all that was required, and he said that the line was three inches wide and not two as stated by the witness. He also said that he had a duly qualified veterinary surgeon in attendance at the premises and he thought that that would entitle him to put up the word.

Mr. Fenwick:—That will not do. The case brought to my attention is clear about that. If you put up the word the Judges say it means you, and that you are not entitled to do it.

The defendant said he did not wish to do anything against the law, and if the College wanted anything more he was willing to do it.

Mr. Thatcher stated that the College only wished the Act to be carried out, and that if defendant would undertake to cover the word entirely with three thick coats of good paint he would be satisfied with a nominal penalty.

Mr. Fenwick:—What do you want three coats for, would not one be enough?

Mr. Thatcher:—I must ask for three coats. When the word "veterinary," in a case of this sort, is covered by one only it has a most astonishing facility for appearing through it. It requires at least three coats to prevent the letters from starting through.

Mr. Fenwick:—How would a thick coat of tar do, or have you any special preference as to the color of the paint, bright scarlet for instance.

Mr. Thatcher:—I have no wish to dictate as to the color of the paint, any color that will suit the defendant's artistic taste will satisfy me, so long as the word does not appear through it.

Mr. Fenwick:—Very well, I shall adjourn the case for a fortnight. You hear what the Solicitor says and you must carry it out. No doubt the College will send up someone to see that the work has been done, and you will all attend here this day fortnight.

JUDGING AT HORSE SHOWS.

Sir,—Seeing that the names of the judges for the Royal Show have been published, I feel satisfied that all shows, local or otherwise, would do well to follow suit. There would be less grumbling, and we might take a hint from our friends across the water and have one judge for hunters, one for hackneys, and so forth. I have been an exhibitor myself between twenty and thirty years, and profess to know a little about shows, when you had to ride twenty or thirty miles to a show and then ride home again, but the generality of hackneys could not do it now-a-days. You go to some of the shows and see some of them go about three times round a ring, when they have to be roosted up, and then again see some of the hackney stallions shown with two reins, and a man to pull their heads up—to keep them from falling, I suppose. I wonder who would like to ride an animal of that description, especially if it was a wet day. Then, again, if the judges names were published in good time, a man would know what to send. Some like quantity, some quality, and some don't know a horse at all. If the one judge system was adopted, then if a man did not know his business or go straight, they could not ask him a second time.

The present system of judging is rotten to the core. One case in particular came under my notice not so long ago. A farmer was going to judge at a certain show not fifty miles from Hull. This man had a horse entered in another man's name, and he gave his own horse the first prize. Had I been an exhibitor at that show I would have exposed him before the public. Another custom is quite common in this part of the country, and that is, to entertain the judges the night before the show.

If you have no feet or legs you won't travel very far on the road. That's my experience, and I have ridden hackneys 300 miles a week for weeks together, and there's no pleasanter animal to ride if he is a true goer, or a more uncomfortable brute when he is all the time fighting to get eight miles an hour out of him. Give us action and pace with it, and if the one judge system was adopted, there would be such a demand for hackneys at remunerative prices that it would pay a farmer to breed them. Let trade come as it may, there is always a customer for a good one. I am sorry to trespass so much on your valuable paper; but I have written this letter thinking that some more able correspondence will take the matter up in earnest, for I am satisfied that the local shows need a second Lord Durham amongst them.—I am, &c.

D. R. Sowerby, M.R.C.V.S.

North British Agriculturist.

THE PATHOLOGY OF BLACK-QUARTER.

By A Commercial Quack.

We are sometimes asked this very natural and legimate question, viz., HOW CAN YOU FOR CERTAIN PREVENT THIS DISEASE? We will answer this question as frankly as it is asked, for we ought to answer it thoroughly and straightforwardly, because our reputation and commercial position are at stake on this vital point. We reply in this manner. This disease is a very virulent form of blood poisoning, for when skinned the disease part is quite black, hence the name of the disease—Blackleg. Now, as we are speaking to plain, shrewd, homely, non-scientific farmers, we shall avoid scientific terms and theories, and state plain facts in plain words. This disease is caused by many very minute living germs that are hatched out of eggs that get into the animal's blood, and there they feed upon *only one* constituent of the blood; THEY CANNOT POSSIBLY LIVE UPON ANY OTHER, and here they beget countless millions in a very short time after coming to maturity, and the first stage of the disease now sets in; but there is no danger as yet, for in the present state the animal is to all intents and purposes, as far as these germs are concerned, perfectly healthy. After a certain fixed time has elapsed these germs seem to die, but no; it is not death, but like the silkworm which becomes a chrysalis, then a butterfly, this germ becomes a new species now; a parasite much larger, and capable of feeding upon *two* of the constitutents of the blood, and at maturity in their turn breed millions more. Still the animal shows no symptoms, and the disease is not suspected, though if properly treated at this stage a cure might be effected. After five days more this parasite makes another change and this last affects the whole of the blood, completely changing it into a highly poisonous condition, which destroys the vitality of some limb or portion of the animal's body and mortification sets in, which, as soon as it reaches the heart the animal drops dead as if shot by a bullet. Now the question is HOW CAN WE PREVENT THIS? Just as yeast changes the nature of flour in the process of bread-making, so do our drinks chemically change this one constituent of the blood (by means of the fermentive process started by the treacle which we distinctly order to be given—see directions) and this one constituent upon which alone these first germs feed instead of it now being natural food to them becomes deadly poison, so that these disease-producing germs now have to make their choice between suicide and starvation. And so thorough and permanent is the change of the blood constituent that it is proof against these germs if a Drink is given the animal every three months as directed.

In the Laboratory Report of the Royal College of Physicians of Edinburgh, vol. iii., 1891, "Drs. Woodhead and Wood, two leading Bacteriologists, after exhaustive investigations, state that the invasion of the *Bacillus anthracis* may be prevented by injections of the sterilized fluid in which the *Bacillus pyocyaneus* has been grown." What pompous nonsense! What scientific cant! For if the "sterilized fluid" be sterile, *i.e.*, barren, unproductive, void; how can it be fruitful to produce remedial effects when itself is absolutely inert and unpotential? How much simpler and better my common-sense method explained above, which having stood unshaken for over 100 years WITHOUT ONE SINGLE FAILURE remains to-day THE ONLY SUCCESSFUL treatment. For though in some counties this disease used to assume the dimensions of a plague, striking down thousands of young stock with a rapidity truly fearful to contemplate. Now, thanks to my Drinks, all that is modified, and the Board of Agriculture recognising this, make an exception to this disease in their compensatory clause in consequence.

A Swine-fever Prophylactic.

Mr. Edward Greening, farmer, of Cowley, near Oxford, was summoned before County Magistrates at Oxford for cruelty to six pigs by performing an illegal and unnecessary operation on them. Inspector Jowett prosecuted on behalf on the Royal Society for the Prevention of Cruelty to Animals.

Mr. J. Walker, veterinary surgeon, said that he had been attending the defendant's pigs for swine fever. On March 17th he found six of them had their ears pegged. They had been pierced, or the skin raised, and a poisonous herb, which was called "bear's foot," inserted. It was introduced into the ear below the skin, and caused a tremendous swelling of the ears. When he saw the pigs the herb had killed every piece of cartilage that it came in contact with. It must have caused much suffering. Such an operation could not be beneficial for swine fever.

Defendant said it was supposed to prevent the pigs having swine fever, and he had done it to scores of pigs in his father's time.

The Chairman (Dr. Child) said the case would be dismissed; in fact, the charge was not within the meaning of the Act at all. The Act was to prevent wanton and unnecessary cruelty. He believed that the defendant had made a great mistake, and had performed an act unjustifiable and unnecessary; but his intention was not to do harm, but good, to the pigs. The case ought not to have been brought into court.

Mr. Hoskyns (a Magistrate) said he did not believe there was any cruelty at all in the mere puncturing of the ear.

Inspector Jowett asked if the Magistrates would be willing to state a case if application should be made to them.

Dr. Child:—No; I think not.

Abnormalities.

At the White Ladies, Albrighton, near Wolverhampton, last week, a cow of Mr. Job Brown's gave birth to two calves, which were joined together at the extremities. They were alive at the commencement of calving, but died during birth. The cow is doing well. Each calf was perfect, having two heads, eight legs, and two tails.

At the Bush Inn, Farlow, on the 11th inst., a ewe belonging to the landlord, Mr Jones, brought a lamb of extraordinary size. The fore part was as big as two lambs, having four ears and four legs. The hinder part, which was quite separated as two lambs, had also four legs, the lamb having altogether eight legs and four ears. Shortly after the ewe brought another lamb, which is doing well. The unnatural one died.

Disinfection of Horse-Boxes.

In the House of Commons last week, Mr. Jacks asked the President of the Board of Agriculture if he was aware that a great amount of disease was spread among horses by the horse-boxes in railways not being properly disinfected, and if he could give instructions that they would in future be disinfected the same as cattle trucks were? Mr. Gardner said he had no reason to believe that a great amount of disease was spread amongst horses in the manner suggested. The cleansing of horse-boxes was already provided for by Article 103 of the Animals

Order of 1886, and if his hon. friend was in possession of any information pointing to any evasion of the requirements of that order, he should be glad to receive particulars and to give the matter his attention.

Fatal Accident in the Hunting Field.

On Thursday, April 6th, Mr. C. J. Doyle, V.S., of Bray, while hunting with the Bray Draghounds, was thrown from his horse while crossing a stone wall between Stepaside and Glencullen. The horse rolled over the unfortunate gentleman, who expired a few minutes afterwards. Mr. Doyle was well known in the city and suburbs, and enjoyed a considerable practice in Bray and vicinity.

The Minimum Reached.

Farmers will derive some satisfaction from a perusal of the proceedings at the annual general meeting of the shareholders in Eastman's Limited. From this they will learn that there is, at least, a point below which the frozen meat trade cannot force down prices, and that the minimum was reached during the last six months of last year. The prices then ceased to be profitable. The Company did an enormous business, importing meat from New Zealand, Australia, the Falkland Islands, the River Plate, and America; and yet, in spite of the fact that they had 587 retail shops in the United Kingdom, and therefore obtained the great advantage of selling large quantities of meat at retail prices, their business during the last six months of the year showed no balance of profit.

The Irish Cattle Trade.

Return of the number of animals exported from Ireland to Great Britain during the week ended 1st April, 1893, showing the principal ports of embarkation in Ireland:—

Belfast	3232
Coleraine	39
Cork	3048
Drogheda	923
Dublin	8298
Dundalk	1746
Dundrum	127
Greenore	316
Larne	1250
Limerick	151
Londonderry	2261
Sligo	344
Wexford	1205
Waterford	3895
Total for all ports	26998
Ditto for last week	24152

A Prolific Ewe at Hazelrig.

Mr. Howie, of Hazelrig, who is a well-known and highly successful breeder of Clydesdales in Northumberland, has in his flock a Border Leicester ewe which has a remarkable record for fecundity at her credit. This year this ewe has dropped four good healthy lambs, all of which are doing well, and during the last six years she has produced nineteen good strong lambs, all of which she reared herself. This ewe, which was bred by Mr. Simmons, of Netherton, has therefore a record for fecundity such as very few ewes could show.

CORRESPONDENCE.

SUPERFLUOUS MALFORMATION?

SIR,

In *The Record* of last Saturday (April 15th) I see a case contributed by Mr. W. Williams under the heading "Superfluous Malformation." As he invites criticism and asks for "any explanation as to how in a horse of this age the food did not find its way in before," may I be permitted to offer an explanation?

In the first place I should most certainly assert that it was not a case of "superfluous malformation" at all. An acquired condition, the result of an injury, cannot be called a malformation in the ordinary acceptation of the term. In my opinion, after considering the history given by Mr. Williams, the case originated in an injury to the pharynx, it might be caused by attempting to ball the horse with a stick, or by any sharp foreign body in the pharynx, as a piece of glass, inflicting an injury at the point indicated by Mr. Williams. During ordinary deglutition portions of ingesta would almost invariably find their way into the wound, and by their presence, these persistently interfering with the healing process would, as a matter of course, ultimately lead to the formation of a fibrous lining to the wound, constituting a sinus. This sinus, according to Mr. Williams, was repeatedly filled with food causing an enlargement which *appeared several times during the twelve months*. This repeated filling of the sinus would facilitate distention and prolongation of the "superfluous malformation" and so pave the way for the result described—impaction. Probably when it "increased to three or four times its original size," either rupture or partial rupture took place at the end of the sinus, facilitating the absorption of fœtid matter and so setting up diffuse septic cellulitis, which would produce all the symptoms described by Mr. Williams.

"COUNTRY."

A WORD OF ENCOURAGEMENT.

SIR,

Your salmon covered wrapper duly received last week, and it has entirely escaped my mind to renew my subscription to *The Veterinary Record*. I would not miss it for the world. It is an oasis in the desert to a busy country practitioner like myself. Accept best thanks for its interesting instructive matters, and its progressive ideas. Cheque enclosed. Yours sincerely,

——, M.R.C.V.S.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—A remittance without name, initials, or address: Post mark—Newcastle; Messrs. J. Barr, J. B. Wolstenholme, A. B. Pearson, E. P. Owen, W. A. Bull, E. E. Seldon, J. Smith, B. Irving, J. McGavin, A. Richardson, Eaton Jones; "American Veterinary Review," "The Gazette," Montreal.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Communications for the Editor to be addressed 20 Fulham Road, S.W.